



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,672	11/30/2000	Terumasa Haneda	1086.1127/JDH	1587

21171 7590 04/21/2004

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

LEE, PHILIP C

ART UNIT	PAPER NUMBER
----------	--------------

2154

DATE MAILED: 04/21/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/725,672

Applicant(s)

HANEDA ET AL.

Examiner

Philip C Lee

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-11 are presented for examination.
2. It is noted that although the present application does contain line numbers in the specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the Examiner and Applicant all future correspondence should include the recommended line numbering.

Claim Rejections – 35 USC 112

3. Claims 1 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a. The following terms lack proper antecedent basis:
 - i. said transmission packet – claims 1, 2, 3 and 5;
 - ii. said transmission – claims 2, 3 and 5;
 - iii. said transmission destination side – claim 3;
 - iv. the transmission destination side – claims 5 and 6.

- b. Claim language in the following claims is not clearly understood:
 - i. As per claim 1, lines 8-9, it is unclear if a packet is received or is transmitted by the external module; Line 13, it is uncertain whether “said transmission packet” refers to “said packet” in line 11; Line 14, it is uncertain whether “said unit” refers to “said packet transmitting/receiving unit” in lines 5-6; Line 16, it is not clearly understood if “the transmitting request of the packet” is the same as “a transmitting request” in lines 9-10; Lines 19 and 20, it is unclear if “said unit” refers to “another packet transmitting/receiving unit” in lines 17-18 or “said unit” in line 14; Lines 26, it is uncertain whether “said packet transmitting/receiving unit” refers to “another packet transmitting/receiving unit” in lines 17-18 or “said unit” in line 14; Lines 27-28, it is uncertain if “the transfer waiting state of said command system packet of the low priority” is the same as “a transfer waiting state” in lines 14-15; Lines 29-30, it is not clearly understood if “the response system packet of the high priority” refers to “the response system packet” in line 24; Line 29-30, it is unclear how does said unit knows which type of packet is high priority [i.e. the packet indicates the priority?]; Lines 32-33, it is not clearly understood how does the transmitting/receiving unit withdraws said transfer waiting state[i.e. discarding said transmitting packet stored in the buffer?].
 - ii. As per claims 2, 4, 5, 7 and 8, they contain the similar language and similar problems or uncertainties as set forth in claim 1 above. Please clarify.

iii. As per claim 3, line 4, it is uncertain whether “the packet transmitting request” refers to “the transmitting request of the internal register access packet of the highest priority” in claim 2, lines 38-39; Lines 6-7, it is not clearly understood which packet transmitting request is subsequently again issued [i.e. said packet transmitting request that is withdrawn or another packet transmitting request]; Line 9, it is unclear if “said request” refers to “said packet transmitting request” that is withdrawn in line 5 or “the packet transmitting request” that is subsequently again issued.

v. As per claims 6 and 9, they contain the similar language and similar problems or uncertainties as set forth in claim 1 above. Please clarify.

Claim Rejections – 35 USC 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admission of prior art [AAPA] in view of Proctor et al, U.S. Patent 6,125,110 (hereinafter Proctor) and Araujo et al, U.S. Patent 6,463,071(hereinafter Araujo).

6. As per claims 1, 4 and 7, as interpreted, AAPA taught the invention as claimed for a computer system in which a plurality of packet transmitting/receiving units provided in correspondence to external modules are connected via a packet bus (page 2, lines 4-18 of the specification), in which each of said packet transmitting/receiving units is constructed in such a manner that

when a packet received from said external module is transmitted, in the case where a transmitting request is issued to a transmission destination and a transmission permission is obtained, said packet is transmitted, and in the case where the transmission permission is not obtained, said transmission packet is stored in a buffer and said unit is set into a transfer waiting state (page 3, lines 9-17 of the specification), and

when the transmitting request of the packet is received from another packet transmitting/receiving unit, if said unit is in a packet receivable state, a response of the transmission permission is made and the packet is received, and if said unit is in a packet unreceivable state, the response of the transmission permission is inhibited (page 3, lines 20-page 4, lines 10 of the specification).

7. AAPA fails to teach that, where priorities are set in order of first priority, second priority and third priority. Proctor taught wherein priorities are set in order of an internal register access

packet, a response system packet, and a command system packet which are transmitted/received by said packet transmitting/receiving unit (col. 4, lines 61-col. 5, lines 43).

8. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of AAPA and Proctor because Proctor's method of setting the order of packet priorities would increase system flexibility of the teachings of AAPA by allowing a user to set the order of packets being transfer according to the priority level (col. 2, lines 56-59).

9. AAPA and Proctor did not teach withdrawing a transfer waiting state and transmits the packet of high priority. Araujo taught in the transfer waiting state of said command system packet of the low priority to a certain transmission destination, in the case where the response system packet of the high priority to another transmission destination is received from the external module, said packet transmitting/receiving unit withdraws said transfer waiting state and transmits the response system packet of the high priority (col. 4, lines 10-19; col. 7, lines 45-67; col. 9, lines 65-col. 10, lines 6).

10. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of AAPA, Proctor and Araujo because Araujo's method of withdrawing a transfer waiting state and transmits the packet of high priority would increase the efficiency of Proctor's system and the teaching of AAPA by avoiding the delay of queuing high priority traffic while waiting to transmit low priority packet (col. 2, lines 45-51).

11. Claims 2, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admission of prior art [AAPA], Proctor and Araujo in view of Edwards et al, U.S. Patent 6,601,189 (hereinafter Edwards).

12. As per claims 2, 5 and 8, as interpreted, AAPA taught the invention as claimed for a computer system in which a plurality of packet transmitting/receiving units provided in correspondence to external modules are connected via a packet bus (page 2, lines 4-18 of the specification), in which each of said packet transmitting/receiving units is constructed in such a manner that

when a packet received from said external module is transmitted, in the case where a transmitting request is issued and a transmission permission is obtained from a destination of said transmission, said packet is transmitted, and in the case where the transmission permission is not obtained, said transmission packet is stored in a buffer and said unit is set into a transfer waiting state (page 3, lines 9-17 of the specification), and

when the transmitting request of the packet is received from another packet transmitting/receiving unit, if said unit is in a packet receivable state, a response of the transmission permission is made and the packet is received, and if said unit is in a packet unreceivable state, the response of the transmission permission is inhibited (page 3, lines 20-page 4, lines 10 of the specification).

13. AAPA fails to teach that, where priorities are set in order of first priority, second priority and third priority. Proctor taught wherein priorities are set in order of an internal register access packet, a response system packet, and a command system packet which are transmitted/received by said packet transmitting/receiving unit (col. 4, lines 61-col. 5, lines 43).

14. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of AAPA and Proctor because Proctor's method of setting the order of packet priorities would increase system flexibility of the teachings of AAPA by allowing a user to set the order of packets being transfer according to the priority level (col. 2, lines 56-59).

15. AAPA and Proctor did not teach withdrawing a transfer waiting state and transmits the packet of high priority. Araujo taught in the transfer waiting state of said command system packet of the low priority to a certain transmission destination, in the case where the internal register access packet of the highest priority to the same transmission destination is received from the external module, said packet transmitting/receiving unit withdraws said transfer waiting state and transmits the internal register access packet of the highest priority (col. 4, lines 10-19; col. 7, lines 45-67; col. 9, lines 65-col. 10, lines 6).

16. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of AAPA, Proctor and Araujo because Araujo's method of withdrawing a transfer waiting state and transmits the packet of high priority would

increase the efficiency of Proctor's system and the teaching of AAPA by avoiding the delay of queuing high priority traffic while waiting to transmit low priority packet (col. 2, lines 45-51)

17. AAPA, Proctor and Araujo fail to teach returning an error packet showing the state of the external module. Edwards taught in a response inhibiting state of the transmission permission caused by an error of the external module, in the case where the transmitting request of the internal register access packet of the highest priority is received, said packet transmitting/receiving unit on the transmission destination side makes a response of the transmission permission, receives the internal register access packet, and returns an error detail information packet showing an error state of the external module (col. 26, 64-col. 27, lines 9).

18. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of AAPA, Proctor, Araujo and Edwards because Edward's teaching of returning an error packet showing the state of the external module would increase system reliability of Proctor's system, Araujo's system and the teachings of AAPA by providing a error packet for notifying an error of the external module to avoid system downtime.

19. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admission of prior art [AAPA], Proctor and Araujo in view of Miller, U.S. Patent 6,604,161 (hereinafter Miller).

20. As per claim 10, as interpreted, AAPA, Proctor and Araujo taught the invention as claimed in claim 7 above. AAPA, Proctor and Araujo did not teach said external module is a PCI bridge. Miller taught wherein said external module is a PCI bridge module for performing a conversion between a command on a PCI bus and the packet (col. 6, lines 41-48).

21. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of AAPA, Proctor, Araujo and Miller because Miller's teaching of an external module that is a PCI bridge would increase the field of use in their systems.

22. As per claim 11, as interpreted, AAPA, Proctor Araujo and Miller taught the invention as claimed in claim 10 above. Miller further taught wherein modules such as host, input/output devices, memory, and the like are connected to the PCI bus of said PCI bridge module through a PCI module (col. 5, lines 36-40).

23. Claims 3, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admission of prior art [AAPA], Proctor, Araujo and Edwards in view of "Official Notice".

24. As per claims 3, 6 and 9, as interpreted, AAPA, Proctor, Araujo and Edwards did not specifically detailing determining said request of high priority. However, Araujo taught withdrawing the request of low priority and transmitting data of high priority, wherein said

receiving unit determines said data is high priority when said request of low priority is withdraw (col. 7, lines 45-67; col. 5, lines 62-66). "Official Notice" is taken for the concept of issuing a request and making a response for granting high priority transmission permission is known and accepted in the art. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include the step where said packet transmitting request is withdrawn and the packet transmitting request is subsequently again issued, said packet transmitting/receiving unit on said transmission destination side determines that said request is the transmitting request of said internal register access packet of the highest priority and makes a response of the transmission permission because by doing so would increase system's alertness by providing realization of higher priority request over low priority request.

CONCLUSION

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yu et al, U.S. Patent 6,345,345, disclosed a system for granting a PCI bus access to a request having higher priority.

Takeda et al, U.S. Patent, U.S. Patent 6,483,845, disclosed a packet transmitter-receiver wherein a request is received and a response is transmitted.

26. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (703)305-7721. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

29. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)350-6121.

P.L.



JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100